

c.) **Amendments to the claims:**

Please amend claims 1, 4, 7-23, 50-56, 67-74, 81-87, 91, 94 and 95 as follows:

Claim 1. (currently amended) ~~Method~~ A method of suppressing amylose ~~fermentation~~ formation in potato, ~~characterized by genetically engineered modification of the potato by comprising:~~

introducing into the genome of ~~the~~ a potato tissue a gene construct comprising:

a fragment of ~~the~~ a potato gene ~~which codes for formation of~~ that encodes a granule-bound starch synthase (GBSS ~~gene~~) ~~inserted~~ positioned in the an antisense ~~direction~~ orientation, wherein said fragment ~~is~~ contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 3, ~~and fragments~~ nucleotide sequences encoding one or more of the amino acid sequences of SEQ ID ~~No.~~ NOs. 6-17, and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function, together with

a promoter ~~selected from the group consisting of a~~ CaMV 35S, patatin I and the GBSS ~~promoter~~.

Claims 2 - 3. (previously canceled).

Claim 4. (currently amended) ~~Fragment~~ An isolated fragment of the a potato gene ~~coding for that~~ encodes a granule bound starch synthase (GBSS), wherein said fragment ~~is~~ contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 3, ~~and fragments~~ nucleotide sequences encoding one or more of the amino acid sequences of SEQ ID ~~No.~~ NOs. 6-17 and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function.

Claims 5 - 6. (previously canceled).

Claim 7. (currently amended) ~~Antisense~~ An antisense construct ~~for~~ capable of inhibiting expression of the a gene ~~for granule bound~~ that encodes a starch synthase in potato, comprising

a) a promoter;

b) a fragment of ~~the~~ a potato gene ~~encoding for that encodes~~ a granule-bound starch synthase ~~inserted positioned in the~~ an antisense ~~direction~~ orientation, wherein said fragment is contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 3, and fragments nucleotide sequences encoding one or more of the amino acid sequences of SEQ ID No. NOS. 6-17 and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function.

Claim 8. (currently amended) ~~Antisense~~ The antisense construct as claimed in claim 7, ~~characterized in that wherein the promoter is an isolated promoter from derived from the potato gene encoding for that encodes said granule-bound starch synthase (GBSS).~~

Claim 9. (currently amended) ~~Antisense~~ The antisense construct as claimed in claim 7, ~~characterized in that wherein the promoter is selected from the group consisting of the SEQ ID No. 4, a CaMV 35S promoter and the a patatin I promoter.~~

Claim 10. (currently amended) ~~Vector~~ A vector comprising a fragment of ~~the~~ a potato gene ~~encoding for that encodes~~ a granule-bound starch synthase (GBSS), wherein said fragment is contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 3, and fragments nucleotide sequences encoding one or more of the amino acid sequences of SEQ ID No. NOS. 6-17, and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function, and inserted positioned in the an antisense ~~direction~~ orientation in relation to a promoter ~~immediately positioned~~ upstream from ~~the gene fragment~~ said nucleotide sequence.

Claim 11. (currently amended) ~~Vector~~ A vector comprising the antisense construct as claimed in claim 7.

Claim 12. (currently amended) ~~Cell~~ A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 7.

Claim 13. (currently amended) ~~Potato~~ A potato plant whose genome comprises the antisense construct as claimed in claim 7.

Claim 14. (currently amended) ~~Potato tubers~~ A potato tuber whose genome comprises the antisense construct as claimed in claim 7.

Claim 15. (currently amended) ~~Seeds~~ A seed from a potato plant whose genome comprises the antisense construct as claimed in claim 7.

Claim 16. (currently amended) ~~Microtubers~~ A microtuber of a potato whose genome comprises the antisense construct as claimed in claim 7.

Claim 17. (currently amended) ~~Vector~~ A vector comprising the antisense construct as claimed in claim 8.

Claim 18. (currently amended) ~~Cell~~ A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 8.

Claim 19. (currently amended) ~~Potato~~ A potato plant whose genome comprises the antisense construct as claimed in claim 8.

Claim 20. (currently amended) ~~Potato tubers~~ A potato tuber whose genome comprises the antisense construct as claimed in claim 8.

Claim 21. (currently amended) A method for tuber-specific expression of a gene product in a potato comprising:

transforming said potato with a DNA molecule comprising ~~an isolated promoter~~ a promoter from ~~the~~ a potato gene ~~encoding for~~ that encodes a granule-bound starch synthase (GBSS).

Claim 22. (currently amended) ~~Antisense~~ The antisense construct as claimed in claim 7, ~~characterized in that~~ wherein the promoter ~~has~~ contains the sequence ~~stated in~~ of SEQ ID NO. 4.

Claim 23. (currently amended) A method for tuber-specific expression of a gene product in a potato comprising:

transforming said potato with a DNA molecule comprising ~~an isolated promoter~~ a promoter sequence from ~~the~~ a potato gene ~~coding for~~ that encodes a granule-bound starch synthase (GBSS), said promoter ~~having~~ sequence containing the nucleotide sequence ~~stated in~~ of SEQ ID NO. 4 or a nucleotide sequence that deviates there from by one or more non-adjacent base pairs without affecting function.

Claims 24 - 49. (previously canceled).

Claim 50. (currently amended) A method of suppressing amylose formation in potato, ~~wherein the potato is modified by genetic engineering, which method comprises~~ comprising:

cultivating a potato containing ~~in the genome of a tissue of said potato~~ a gene construct comprising a fragment of ~~the~~ a potato gene ~~which codes for formation of~~ that encodes a granule-bound starch synthase (GBSS ~~gene~~) ~~inserted~~ positioned in the ~~an~~ anti-sense ~~direction~~ orientation, wherein said fragment ~~has~~ contains the nucleotide sequence of SEQ ID NO. 1 or a nucleotide sequence that deviates there from by one or more non-adjacent base pairs without affecting function.

Claim 51. (currently amended) A method of suppressing amylose formation in potato, ~~wherein the potato is modified by genetic engineering, which method comprises~~ comprising:

cultivating a potato containing ~~in the genome of a tissue of said potato~~ a gene construct comprising a fragment of ~~the~~ a potato gene ~~which codes for formation of~~ that encodes a granule-bound starch synthase (GBSS ~~gene~~) ~~inserted~~ positioned in the ~~an~~ anti-sense ~~direction~~ orientation, wherein said fragment ~~is~~ contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, ~~and~~ SEQ ID NO. 3, nucleotide sequences encoding one or more

of the amino acid sequences of SEQ ID NOs. 6-17, and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function together with a promoter selected from the group consisting of CaMV 35S, patatin I and the GBSS promoter.

Claim 52. (currently amended) A An isolated fragment of a potato gene ~~encoding for that~~ encodes a granule-bound starch synthase (GBSS), wherein said fragment is contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, and SEQ ID NO. 3, and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function.

Claim 53. (currently amended) An antisense construct ~~for that is capable of~~ inhibiting expression of the a potato gene which codes for that encodes a granule-bound starch synthase (GBSS gene) comprising:

a) a promoter,

b) a fragment of the potato gene ~~encoding for that encodes said~~ granule-bound starch synthase inserted positioned in the an antisense direction orientation, wherein said fragment is contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, and SEQ ID NO. 3 and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function.

Claim 54. (currently amended) ~~Antisense~~ The antisense construct as claimed in claim 53, ~~characterized in that~~ wherein the promoter contains essentially has the sequence stated in of SEQ ID NO. 4 or a nucleotide sequence that deviates there from by one or more non-adjacent base pairs without affecting function.

Claim 55. (currently amended) ~~Antisense~~ The antisense construct as claimed in claim 53, ~~characterized in that~~ wherein the promoter is selected among the from the group consisting of SEQ ID NO. 4, a CaMV 35S promoter and the a patatin I promoter.

Claim 56. (currently amended) A vector comprising a fragment of ~~the a~~ potato gene ~~coding for that encodes a~~ granule-bound starch synthase (GBSS), wherein said fragment ~~is~~ contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, ~~and~~ SEQ ID NO. 3, and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function, and said ~~fragment is inserted~~ nucleotide sequence is positioned in ~~the an~~ antisense ~~direction~~ orientation in relation to a promoter ~~immediately positioned~~ upstream from ~~the gene fragment~~ said nucleotide sequence.

Claim 57. (previously added) A vector comprising the antisense construct as claimed in claim 53.

Claim 58. (previously added) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 53.

Claim 59. (previously added) A potato plant whose genome comprises the antisense construct as claimed in claim 53.

Claim 60. (previously added) A potato tuber whose genome comprises the anti-sense construct as claimed in claim 53.

Claim 61. (previously added) A seed from a potato plant whose genome comprises the antisense construct as claimed in claim 53.

Claim 62. (previously added) A microtuber of potato whose genome comprises the antisense construct as claimed in claim 53.

Claim 63. (previously added) A vector comprising the antisense construct as claimed in claim 54.

Claim 64. (previously added) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 54.

Claim 65. (previously added) A potato plant whose genome comprises the antisense construct as claimed in claim 54.

Claim 66. (previously added) A potato tuber whose genome comprises the anti-sense construct as claimed in claim 54.

Claim 67. (currently amended) ~~An antisense construct as claimed in claim 53 wherein the promoter has the sequence state in SEQ ID No. 4~~ A seed from a potato plant, whose genome comprises the antisense construct as claimed in claim 54.

Claim 68. (currently amended) A method of suppressing amylose formation in potato, ~~wherein the potato is modified by genetic engineering, which method comprises~~ comprising:

cultivating a potato containing ~~in the genome of a tissue of said potato~~ a gene construct comprising a fragment of ~~the a potato gene which codes for formation of~~ that encodes a granule-bound starch synthase (GBSS gene) inserted positioned in the an anti-sense direction orientation, wherein said fragment ~~has~~ contains the nucleotide sequence of SEQ ID NO.4 3 or a nucleotide sequence that deviates there from by one or more non-adjacent base pairs without affecting function.

Claim 69. (currently amended) A method of enhancing amylopectin formation in potato, ~~wherein the potato is modified by genetic engineering, which method comprises~~ comprising:

cultivating a potato containing ~~in the genome of a tissue of said potato~~ a gene construct comprising a fragment of ~~the a potato gene which codes for formation of~~ that encodes a granule-bound starch synthase (GBSS gene) inserted positioned in the an anti-sense direction orientation, wherein said fragment ~~has the~~ contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 3, SEQ ID NO. 4, nucleotide sequences that encode one or more of the amino acid sequences of SEQ ID NOs. 6-17, and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function.

Claim 70. (currently amended) A An isolated fragment of ~~the a~~ potato gene ~~encoding for that~~ encodes a granule-bound starch synthase (GBSS), wherein said fragment ~~has~~ contains the nucleotide sequence of SEQ ID NO. 1 or a nucleotide sequence that deviates there from by one or more non-adjacent base pairs without affecting function.

Claim 71. (currently amended) An antisense construct ~~for that is capable of~~ inhibiting expression of ~~the a~~ potato gene ~~which codes for formation of that~~ encodes a granule-bound starch synthase (GBSS gene) comprising:

a) a promoter, and

b) a fragment of the potato gene ~~encoding for that~~ encodes said granule-bound starch synthase ~~inserted positioned in the an~~ antisense direction orientation, wherein said fragment ~~has~~ contains the nucleotide sequence of SEQ ID NO. 1 or a nucleotide sequence that deviates there from by one or more non-adjacent base pairs without affecting function.

Claim 72. (currently amended) The antisense construct as claimed in claim 71, wherein the promoter is ~~an isolated promoter from the potato gene encoding for a~~ granule-bound starch synthase (GBSS) gene promoter.

Claim 73. (currently amended) The antisense construct as claimed in claim 71, wherein the promoter is selected from the group consisting of the SEQ ID NO. 4, a CaMV 35S promoter and the a patatin I promoter.

Claim 74. (currently amended) A vector comprising a fragment of ~~the a~~ potato gene ~~encoding for that~~ encodes a granule-bound starch synthase (GBSS), wherein said fragment ~~has~~ contains the nucleotide sequence of SEQ ID NO. 1 or a nucleotide sequence that deviates there from by one or more non-adjacent base pairs without affecting function.

Claim 75. (previously added) A vector comprising the antisense construct as claimed in claim 71.

Claim 76. (previously added) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 71.

Claim 77. (previously added) A potato plant whose genome comprises the antisense construct as claimed in claim 71.

Claim 78. (previously added) A potato tuber whose genome comprises the antisense construct as claimed in claim 71.

Claim 79. (previously added) A seed from a potato plant, whose genome comprises the antisense construct as claimed in claim 71.

Claim 80. (previously added) A microtuber of a potato, whose genome comprises the antisense construct as claimed in claim 71.

Claim 81. (currently amended) A method of suppressing amylose formation in potato, ~~wherein the potato is modified by genetic engineering, which method comprises~~ comprising:

cultivating a potato tissue containing ~~in the genome of a tissue of said potato~~ a gene construct comprising a fragment of ~~the a potato gene which codes for formation of that~~ encodes a granule-bound starch synthase (GBSS gene) inserted positioned in the an antisense direction orientation, wherein said fragment is of sufficient length to ~~result in the suppression of suppress~~ amylose formation when ~~introduced into the genome of a potato tissue and~~ expressed in said potato ~~is cultivated~~ tissue.

Claim 82. (currently amended) A method of enhancing amylopectin formation in potato, ~~wherein the potato is modified by genetic engineering, which method comprises~~ comprising:

cultivating a potato tissue containing ~~in the genome of a tissue of said potato~~ a gene construct comprising a fragment of ~~the a potato gene which codes for formation of that~~ encodes a

granule-bound starch synthase (GBSS gene) ~~inserted~~ positioned in the an antisense ~~direction orientation~~, wherein said fragment is of sufficient length to ~~result in the suppression of~~ suppress amylose formation when ~~introduced into the genome of a potato tissue and~~ expressed in said potato ~~is cultivated~~ tissue.

Claim 83. (currently amended) A An isolated fragment of ~~the~~ a potato gene ~~encoding for that~~ encodes a granule-bound starch synthase (GBSS), wherein said fragment is of sufficient length to ~~result in the suppression of~~ suppress amylose formation when ~~introduced into the genome of~~ expressed in a potato tissue ~~and said potato is cultivated~~.

Claim 84. (currently amended) An antisense construct for inhibiting expression of ~~the~~ a potato gene ~~which codes for formation of that encodes a~~ granule-bound starch synthase (GBSS gene) comprising:

a) a promoter, and

b) a fragment of the potato gene ~~encoding for that encodes said~~ granule-bound starch synthase ~~inserted~~ positioned in the an antisense ~~direction orientation~~, wherein said fragment is of sufficient length to ~~result in the suppression of~~ suppress amylose formation when ~~introduced into the genome of~~ expressed in a potato tissue ~~and said potato is cultivated~~.

Claim 85. (currently amended) The antisense construct as claimed in claim 84, wherein the promoter is ~~an isolated~~ a promoter from the potato gene ~~encoding for that encodes said~~ granule-bound starch synthase (GBSS).

Claim 86. (currently amended) The antisense construct as claimed in claim 84, wherein the promoter is selected from the group consisting of ~~the~~ SEQ ID NO. 4, a CaMV 35S promoter and ~~the~~ a patatin I promoter.

Claim 87. (currently amended) A vector comprising a fragment of ~~the~~ a potato gene ~~encoding for that encodes a~~ granule-bound starch synthase (GBSS), wherein said fragment is of sufficient

length to ~~result in the suppression of~~ suppress amylose formation when ~~introduced into the genome of~~ expressed in a potato tissue ~~and said potato is cultivated.~~

Claim 88. (previously added) A vector comprising the antisense construct as claimed in claim 84.

Claim 89. (previously added) A cell of a potato plant whose genome comprises the antisense construct as claimed in claim 84.

Claim 90. (previously added) A potato plant whose genome comprises the antisense construct as claimed in claim 84.

Claim 91. (currently amended) A potato tuber whose genome comprises the antisense construct as claimed in claim 84.

Claim 92. (previously added) A seed from a potato plant, whose genome comprises the antisense construct as claimed in claim 84.

Claim 93. (previously added) A microtuber of a potato, whose genome comprises the antisense construct as claimed in claim 84.

Claim 94. (currently amended) An isolated, tuber-specific potato, granule-bound starch synthase (GBSS) gene promoter ~~having that contains~~ essentially the nucleotide sequence of SEQ ID NO. 4 or a nucleotide sequence that deviates there from by one or more non-adjacent base pairs without affecting function.

Claim 95. (currently amended) ~~An isolated,~~ A tuber-specific, potato, granule-bound starch synthase (GBSS) gene protomer consisting essentially of the nucleotide sequence of SEQ ID NO. 4.

Please add the following as new claims 96-149:

--96. (new) The method of claim 1 wherein the promoter is selected from the group consisting of a CaMV 35S promoter, a patatin I promoter, a GBSS promoter, SEQ ID NO. 4, and combinations thereof.

97. (new) The method of claim 1 wherein suppression of amylose formation is practically complete.

98. (new) The method of claim 1 wherein introducing is by a transformation process.

99. (new) The method of claim 1 wherein the fragment contains SEQ ID NO. 1.

100. (new) The method of claim 1 wherein the fragment contains SEQ ID NO. 2.

101. (new) The method of claim 1 wherein the fragment contains SEQ ID NO. 3.

102. (new) The method of claim 1 wherein the fragment encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.

103. (new) The fragment of claim 4 which contains SEQ ID NO. 1.

104. (new) The fragment of claim 4 which contains SEQ ID NO. 2.

105. (new) The fragment of claim 4 which contains SEQ ID NO. 3.

106. (new) The fragment of claim 4 which contains the nucleotide sequence that encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.

107. (new) The construct of claim 7 wherein the fragment contains SEQ ID NO. 1.

108. (new) The construct of claim 7 wherein the fragment contains SEQ ID NO. 3.

109. (new) The construct of claim 7 wherein the fragment encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.

110. (new) The method of claim 50 wherein the fragment contains SEQ ID NO. 1.

111. (new) The method of claim 50 wherein suppression of amylose formation is practically complete.

112. (new) The method of claim 51 wherein the fragment contains SEQ ID NO. 2.

113. (new) The method of claim 51 wherein the fragment contains SEQ ID NO. 3.

114. (new) The method of claim 51 wherein the fragment encodes the amino acid sequence of any one or more of SEQ ID NOs. 6-17.

115. (new) The method of claim 51 wherein the gene construct further comprises a promoter.

116. (new) The method of claim 115 wherein the promoter is selected from the group consisting of a CaMV 35S promoter, a patatin I promoter, a GBSS promoter, SEQ ID NO. 4, and combinations thereof.

117. (new) The method of claim 51 wherein suppression of amylose formation is practically complete.

118. (new) The method of claim 52 wherein the fragment contains SEQ ID NO. 2.

119. (new) The method of claim 68 wherein suppression of amylose formation is practically complete.

120. (new) The method of claim 68 wherein the gene construct further comprises a promoter.

121. (new) The method of claim 120 wherein the promoter is selected from the group consisting of a CaMV 35S promoter, a patatin I promoter, a GBSS promoter, SEQ ID NO. 4, and combinations thereof.

122. (new) The method of claim 69 wherein the nucleotide sequence contains SEQ ID NO. 1.

123. (new) The method of claim 69 wherein the nucleotide sequence contains SEQ ID NO. 2.

124. (new) The method of claim 69 wherein the nucleotide sequence contains SEQ ID NO. 3.

125. (new) The method of claim 69 wherein the nucleotide sequence contains SEQ ID NO. 4.

126. (new) The method of claim 69 wherein the nucleotide sequence encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.

127. (new) The method of claim 69 wherein the gene construct further comprises a promoter.

128. (new) The method of claim 127 wherein the promoter is selected from the group consisting of a CaMV 35S promoter, a patatin I promoter, a GBSS promoter, SEQ ID NO. 4, and combinations thereof.

129. (new) The method of claim 81 wherein the fragment contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 3, nucleotide sequences encoding one or more of the amino acid sequences of SEQ ID NOs. 6-17, and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function.

130. (new) The method of claim 129 wherein the nucleotide sequence contains SEQ ID NO. 1.

131. (new) The method of claim 129 wherein the nucleotide sequence contains SEQ ID NO. 2.
132. (new) The method of claim 129 wherein the nucleotide sequence contains SEQ ID NO. 3.
133. (new) The method of claim 129 wherein the nucleotide sequence encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.
134. (new) The method of claim 81 wherein suppression of amylose formation is practically complete.
135. (new) The method of claim 81 wherein the fragment contains one or more portions of the GBSS gene wherein said one or more portions are selected from the group consisting of a GBSS exon, a GBSS intron, a GBSS coding region, a GBSS noncoding region, a GBSS leader region, a GBSS trailer region and combinations thereof.
136. (new) The method of claim 82 wherein the fragment contains a nucleotide sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 3, nucleotide sequences encoding one or more of the amino acid sequences of SEQ ID NOs. 6-17, and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function.
137. (new) The method of claim 136 wherein the nucleotide sequence contains SEQ ID NO. 1.
138. (new) The method of claim 136 wherein the nucleotide sequence contains SEQ ID NO. 2.
139. (new) The method of claim 136 wherein the nucleotide sequence contains SEQ ID NO. 3.
140. (new) The method of claim 136 wherein the nucleotide sequence encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.
141. (new) The method of claim 82 wherein the fragment contains one or more portions of the GBSS gene wherein said one or more portions are selected from the group consisting of a GBSS exon, a GBSS intron, a GBSS coding region, a GBSS noncoding region, a GBSS leader region, a GBSS trailer region and combinations thereof.

142. (new) The fragment of claim 83 which contains one or more portions of the GBSS gene wherein said one or more portions are selected from the group consisting of a GBSS exon, a GBSS intron, a GBSS coding region, a GBSS noncoding region, a GBSS leader region, a GBSS trailer region and combinations thereof.

143. (new) The construct of claim 84 wherein the fragment contains one or more portions of the GBSS gene wherein said one or more portions are selected from the group consisting of a GBSS exon, a GBSS intron, a GBSS coding region, a GBSS noncoding region, a GBSS leader region, a GBSS trailer region and combinations thereof.

144. (new) The vector of claim 87 wherein the fragment contains a sequence selected from the group consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 3, nucleotide sequences encoding one or more of the amino acid sequences of SEQ ID NOs. 6-17, and nucleotide sequences that deviate there from by one or more non-adjacent base pairs without affecting function.

145. (new) The vector of claim 144 wherein the nucleotide sequence contains SEQ ID NO. 1.

146. (new) The vector of claim 144 wherein the nucleotide sequence contains SEQ ID NO. 2.

147. (new) The vector of claim 144 wherein the nucleotide sequence contains SEQ ID NO. 3.

148. (new) The vector of claim 144 wherein the nucleotide sequence encodes one or more of the amino acid sequences of SEQ ID NOs. 6-17.

149. (new) The vector of claim 87 wherein the fragment contains one or more portions of the GBSS gene wherein said one or more portions are selected from the group consisting of a GBSS exon, a GBSS intron, a GBSS coding region, a GBSS noncoding region, a GBSS leader region, a GBSS trailer region and combinations thereof.--

d.) **Remarks**

Claims 2, 3, 5, 6, and 24-49 were previously canceled, claim 1, 4, 7-23, 50-56, 67-74, 81-87, 91, 94, and 95 are herein amended, and new claims 96-149 are added. The amendments are to correct certain typographical and grammatical errors, to eliminate duplicate claims, to introduce minor modifications requested by the examiner, and/or to further clarify the invention. Support, if necessary, can be found throughout the specification and also in the original claims and figures.

Thus, claims 1, 4, 7-23 and 50-149 are presently pending. No new matter or new issues are introduced with these amendments and new claims.

Request to Withdraw Office Action as Incomplete

Applicant respectfully asserts that the Office Action is incomplete and should be withdrawn. On page 4 of the Office Action, claims 81-93 stand rejected, under 35 U.S.C. § 102(g), as allegedly anticipated by the application of Visser et al., which was the subject of Interference No. 103579. It is a well established PTO procedure that all prior art cited against the claimed invention “must” be cited by applicant (on PTO Form 1449) or by the examiner (on PTO Form 892). In the Office Action, neither the Visser application nor the Decision on the Interference has been officially placed into the prosecution record by the Examiner. No PTO Form 892 was included with the instant Office Action or with any prior Office Action. The Visser application was known to the PTO for many years, and clearly known to the examiner for this case. Further, Decision on the Interference is mail dated September 25, 2001, so it too was known and available to the PTO for many years and clearly known to the examiner for this case. Absent proper inclusion of the alleged prior art into the official prosecution record, the Office Action is incomplete and must be withdrawn.

Nevertheless, in an effort to expedite prosecution of this application, applicant provides the following remarks regarding the Office Action.

Remarks Regarding Typographical Errors

It is requested that the application, namely the claims, be reviewed for typographical errors. Applicant has carefully reviewed the claims and made a number of typographical including grammatical corrections. For example, many instances of “*the*” were replaced with “*a*” and vice versa. Extraneous words and phrases were deleted. The phrases “*coding for*” or simply “*for*” were replaced where appropriate with the phrase “*that encodes*”. The term “*fragment*” was replaced in certain instances with the term “*nucleotide sequence*” to avoid confusion in claims where there already existed an aspect that was a fragment. The term “*inserted*” was replaced with “*positioned*” and the term “*direction*” was replaced with the term “*orientation*.” SEQ ID NO 4 was added to claims containing Markush groups of different promoters. In claims containing SEQ ID NOs. generally, the phrase “*and sequences that deviate there from by one or more non-adjacent base pairs without affecting function*” was added to encompass those specific functional variations of the sequence identification numbers. This amendment is expressly supported throughout the specification such as, for example, at page 6, lines 8-10, and lines 17-19, and at page 7, lines 12-13. In addition, sequence numbers were added to the Markush groups of certain claims where they appeared to be missing. These amendments are believed to more correctly and completely describe the claimed invention.

Remarks Regarding 37 C.F.R. § 1.121

Applicant very much appreciates the examiner’s review and consideration of the claims and amendments requested in the Amendment filed and dated March 26, 2003, in spite of their non-compliance with 37 C.F.R. § 1.121(c). In an effort to expedite prosecution, the claims recited above are written assuming that the Amendment of March 26, 2003, was correct except for the following instances noted by the examiner:

(i) The text of claims 8 and 9 recited herein includes any changes made by applicant pursuant to the amendment filed and dated July 31, 1995. Additional amendments are introduced herein to request typographical and grammatical changes.

(ii) The term "the" in claim 10 which was not identified as new text in the Amendment of March 26, 2003, has been omitted herein.

Remarks Regarding Prior IDS Submission

Applicant submitted an Information Disclosure Statement ("IDS") dated March 26, 2003, which the examiner states contains certain documents that were of record in Interference No. 103579, but not otherwise available to the public. As not publicly available, the examiner crossed them out on the form and refused to indicate that they had been considered.

Applicant respectfully notes that whether or not these documents are available to the public is not material in having them considered by the examiner. They were properly cited by applicant and must be considered. However, applicant also respectfully notes that the documents that were crossed out by the examiner are now available to the public in the file history for U.S. Patent No. 6,600,093. Accordingly, applicant respectfully requests that those documents be considered by the examiner and Form 1449 be properly initialed to note that consideration.

In addition, the examiner also states that four (4) references were missing from the materials submitted with the IDS dated March 26, 2003. Those references include:

1. Stockhaus et al., The EMBO Journal 9:3031, 1991.
2. Sargeant et al., Starch/Starke 34:89-92, 1982.
3. Salomonsson et al., Starch/Starke 46:325-28, 1994.
4. Dubois et al., Anal. Chem. 18:350-56, 1956.

Enclosed herewith are additional copies of these four (4) references. As the references and IDS were previously and properly submitted, it is not believed necessary to submit these references with a Supplemental IDS. Please consider these references and indicate that consideration by initialing the original Form 1449 as appropriate and returning a copy of the fully initiated IDS to applicant.

Remarks Regarding Prior Submission under 37 C.F.R. § 1.44

It is requested that applicant provide a copy of “the will and a translation of pages 2-4 of the estate inventory” along with a legal memorandum setting forth certain requirement under 37 C.F.R. § 1.44. Enclosed herewith is another copy of the requested documents. Should anything further be required, please contact the undersigned at the address and/or telephone numbers indicated.

Remarks Regarding 35 U.S.C. § 112, Second Paragraph

Claims 50, 54, 55, 63-66, 68, 73 and 94 stand rejected, under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. Applicant respectfully traverses this rejection.

With regard to claims 50 and 68, it is alleged that these claims relate to duplicate subject matter. Claim 68 has been amended to encompass SEQ ID NO. 3, instead of SEQ ID NO. 1, as is recited in claim 50. Thus, this aspect of the rejection is moot.

With regard to claims 54 and 94, it is alleged that the term “essentially” is unclear. This term has been deleted and this aspect of the rejection is also moot.

With regard to claims 55 and 73, it is alleged that these claims are not in correct Markush terminology. The terminology has been corrected and this aspect of the rejection is moot.

With regard to claim 55, it is alleged that the term “among” should be replaced with the phrase “from the group consisting of”. This change has been made and, thus, this aspect of the rejection is moot.

With regard to claim 73, it is alleged that the term “consisting” should be followed by “of”. This change has been made and, thus, this aspect of the rejection is moot.

Thus, the rejection of claims 50, 54, 55, 63-66, 68, 73 and 94, under 35 U.S.C. § 112, second paragraph, is moot and applicant respectfully requests that it be withdraw.

Remarks Regarding 35 U.S.C. § 102(g)

Claims 81-93 stand rejected, under 35 U.S.C. § 102(g), as allegedly anticipated by the application of Visser et al. ("Visser"), which was the subject of Interference No. 103579.¹

In the Office Action the Examiner states that "Visser et al. were awarded priority to claims drawn to full length genes" Finally, the Examiner concluded, "Given the naturally occurring mutant forms of full-length potato genes which may include terminal deletions of single base pairs, Visser et al. inherently anticipate the claimed invention." This rejection and its supporting reasoning are respectfully traversed. Neither Visser's claims nor its disclosure are prior art to applicant and may not be used as the basis for a prior art rejection in this application.

The Examiner has misread what happened in the interference: Visser was most surely *NOT* awarded priority of invention against applicants as to any claims in Interference No. 103,579. As a result, the record does not support the Examiner's conclusion that Visser made its invention before applicant made theirs.

First, the Board entered judgment of no interference in fact, meaning that there was no priority contest *at all* between applicant and Visser in which priority could have been awarded to Visser. Simply put, Visser was not awarded priority against applicant because there was no interference in which the Board *could* have awarded priority.

Second, applicant was the senior party in the interference since they filed first. Under 37 CFR 1.657(a), "A rebuttable presumption shall exist that, as to each count, the inventors made their invention in the chronological order of their filing dates." Since the Board terminated Interference No. 103,579 before Visser could prove any date of invention prior to applicant's

¹ Applicant notes that the Examiner has not cited this alleged reference on a PTO-892 form and thus suggest that it is not of record and thus not citable against applicants' claims. Applicant is responding to the merits of what is perceived to be the Examiner's intent, solely to expedite prosecution and with exception to this defect in the record.

filing date, the state of the present record is that applicant made the invention *before*, not after, Visser made theirs.

The pages of the Board's decision to which the Examiner refers, pages 82-84 and 129-130, do not support the Examiner's finding that the Board awarded priority to Visser. Pages 82-84 contain a portion of the Board's analysis of interference in fact, in which the Board *assumed* (as required by 37 CFR 1.610(j) and 1.601(n) in deciding whether interference in fact exists) that Visser's claims were prior art to applicants' claims and stated at the top of page 83, "On their face, Hofvander's claims do not anticipate Visser's claims, and vice versa." The Board then rejected applicant's argument that the claims rendered Visser's claims unpatentable. The paragraph bridging pages 129-130 of the Board's decision merely states that Hofvander has not shown that Visser is not entitled to a patent, which is not tantamount to saying that Hofvander was not entitled to a patent. The preceding paragraph of the Board's decision, which the Examiner appears to have overlooked, states that Visser has not shown that Hofvander is not entitled to a patent. Applicant is at a loss to understand how either of these passages of the Board's decision supports the Examiner's rejection.

The Examiner overlooked another crucial aspect of the Board's decision: the Board held that applicant's claims were patentable over Visser's claims in entering judgment of no interference in fact. Thus, even if Visser's claims were prior art to Hofvander, the Board has already ruled that Visser's claims are not an impediment to issuing a patent to applicant. The Examiner is not at liberty to disregard the Board's decision on this issue.

Finally, the Examiner misread what an award of priority to Visser would have meant. All that an award of priority to Visser would have meant was that the lost count, which may or may not have been coextensive with Visser's claims, would have been prior art to applicant. Visser's disclosure would not be prior art against applicant even if Visser had won the interference. There is no evidence that Visser's disclosure was reduced to practice in this country prior to applicant's

date of invention, so Visser's disclosure is not available as prior art under 35 USC 102(g).² See, e.g., MPEP 2138. Thus, the Examiner's use of Visser's *disclosure*, not Visser's claims, as prior art against applicant is improper. The Board has already held that Hofvander's claims are patentable over Visser's claims, which ends the inquiry.

For these reasons, neither Visser's claims nor Visser's disclosure is prior art against any of applicant's claims. The rejection of claims 81-93 as anticipated by Visser should be withdrawn. It is not necessary for applicants to comment on the substance of the Visser application disclosure.

Remarks Regarding New Dependent Claims

New claims 96-149 are added to further clarify the invention. Please note that these claims are all dependent from existing allowed claims or claims believed to be allowable. For example, new dependent claims 96, 115, 116, 120, 121, 125, 127, and 128 all encompass a promoter and various promoters, all found to be allowable in other claims. New dependent claims 99-110, 112-114, 118, 122-124, 126, 129-133, 136-140, and 144-148 all add SEQ ID NOs. considered to be allowable in other claims. New dependent claims 97, 111, 117, 119, and 134, all define the feature of amylase suppression as "practically complete" (specification, page 5, line 21). New dependent claim 98 defines allowed claim 1 to indicate that introduction may be by "transformation" (specification, pages 11-12). New dependent claims 135, 141-143, and 149 define the one or more portions of the GBSS gene as including "introns, exons, coding regions, non-coding regions, leader regions, trailer regions and combinations thereof" (specification, page 5, lines 30-37).

² Applicant also notes that Visser's U.S. Patent No. 6,600,093, which issued from Visser's application involved in Interference No. 103,579 on July 29, 2003, claims an earliest effective date of February 14, 1992, subsequent to applicants' effective filing date of December 20, 1991. This rules Visser's patent out as prior art under 35 USC 102(e).

Accordingly, all new claims are dependent and based on allowed claims or claims believed to be allowable. Applicant respectfully requests that they be included and entered herein.

Remarks Regarding Interference No. 103579

The reference noted by the examiner above, namely Visser et al., which was the subject of Interference No. 103579, issued as U.S. Patent No. 6,600,093 on July 29, 2003. Applicant respectfully requests that this U.S. Patent and the Board's decision on the Interference (both of which are enclosed) be cited by the examiner on PTO Form 892. Pursuant to a telephone discussion with Examiner Fox on Tuesday August 26, it was agreed that this U.S. Patent and the Decision on the Interference would be made of record in this case and that no additional IDS would be necessary

Conclusion

The application is in condition for allowance and the prompt issuance of a Notice of Allowance is respectfully requested.

Applicant has added 54 new dependent claims with this Amendment. Please charge the requisite extra claim fee of \$972 for the 54 additional dependent claims ($54 \times \$18 = \972) to Deposit Account No. 03-1952.

The undersigned very much appreciates the telephone discussion with Examiner Fox on Tuesday, August 26. The undersigned requested an interview, but Examiner Fox thought it best that applicant submit this Amendment and Response now to allow the examiner to review these amendments and determine if an interview would even be necessary. Accordingly, if any issues remain, applicant respectfully requests that Examiner Fox contact the undersigned by telephone to discuss or arrange an interview.

Appln. No. 08/070,455

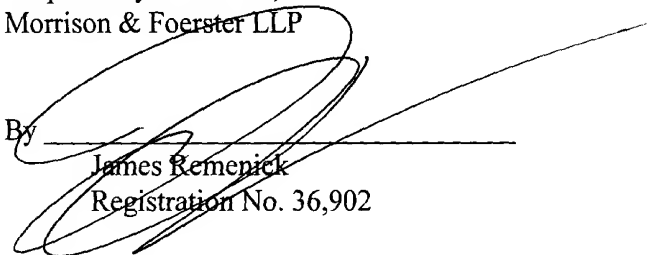
New Attorney Docket No.: 53262-20001.00

If there are any additional fees due with the filing of this Amendment, including any fees for an extension of time or any fees not otherwise discussed, applicant respectfully requests that extension and also requests that any and all fees due be charged to Deposit Account No. 03-1952.

Respectfully submitted,
Morrison & Foerster LLP

Date: September 3, 2003

By


James Remenick
Registration No. 36,902

Enclosed: Requested § 1.44 documents
Four (4) references
U.S. Patent No. 6,600,093 and Interference Decision

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